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Title: "Precision Continuum Receivers for Astrophysical Applications"

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Abstract: Cryogenically cooled HEMT (High Electron Mobility Transistor) amplifiers find widespread use in radioastronomy receivers. In recent years, these devices have also been commonly employed in broadband receivers for precision measurements of the Cosmic Microwave Background (CMB) radiation. In this setting, the combination of ultra-low-noise and low-spectral-resolution observations reinforce the importance achieving suitable control over the device environment to achieve fundamentally limited receiver performance. The influence of the intrinsic amplifier stability at low frequencies on data quality (e.g., achievable noise and residual temporal correlations), observational and calibration strategies, as well as architectural mitigation approaches in this setting will be discussed. The implications of device level $1/f$ fluctuations reported in the literature on system performance will be reviewed.